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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,738	08/04/2006	Susumu Hara	UNIU97.001APC	5547

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EXAMINER

FANG, SHANE

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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02/13/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/597,738	Applicant(s) HARA ET AL.	
	Examiner SHANE FANG	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/20/08,08/04/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The references provided shown on ISR are not applied for rejections under 102s, because each of them discloses partial claimed inventions as recited in claims 1-13. JP 10-306144A and JP 64-75534A fails to disclose making polypyrrole via electrolytic polymerization with the use of the electrolyte of (perfluoroalkyl)sulfonylimide salt. JP 8-53566A fails to disclose making polypyrrole via electrolytic polymerization.

Claim Rejections - 35 USC § 102/103

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

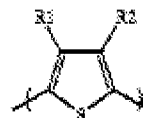
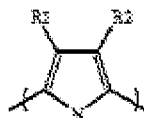
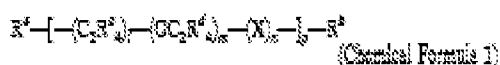
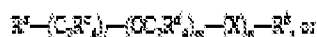
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over **Takamuka et al. (US 6665171 B1)**.

As to claims 1-2, Takamuka et al. discloses capacitor comprising a layer of homo/copolymer (filmy object) with the following formula (claim 1):

in the chemical formula 1, "l" and "m" are integers of 0 or larger and not 0 simultaneously, and "n" and "p" are natural numbers of 1 or larger;

X is any one species, or two or more species out of chemical species described by a general expression as follows:



R1 to R6 are, respectively, hydrogen, fluorine, an alkyl group with 1 to 20 of carbon, which is allowed to be

When l=0, m=0, and R^a and R^b=H, the disclosed species is a polypyrrole having pyrrole and pyrrole derivative repeating units. The polypyrrole is produced by electrolytic polymerization method, as implies in the procedure described on Col 4, ll 10-25.

Takamuka et al. is silent on the property of surface area growth as recited in claim 1. In view of the substantially identical composition, the adduct would possess the claimed properties of surface area growth. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. **In re Best**, 562 F. 2d 1252, 195 USPQ 430 (CCPA 1977); **In re Fitzgerald**, 205 USPQ 594 (CCPA 1980). See MPEP § 2112.

As to claims 3-4, Takamuka et al. discloses using propylene carbonate, a polar organic solvent (Col 5, ll 21).

Claims 5-6 are rejected for the same reason as applied to claim 1.

As to claim 7, Takamuka et al. discloses the use of bis(perfluoroalkyl) sulfonylimide ion (Col 5, ll 60-61), a species of structure (1) as recited in instant claim 7, to make electrolyte solution using polar solvent (Col 5, ll 19).

Claim Rejections - 35 USC § 102

4. Claims 8-9 are rejected under 35 U.S.C. 102(b) as anticipated by **Takamuka et al. (US 6665171 B1)**.

Takamuka et al. discloses claimed electric conductive polymer as describe above paragraph 3.

As to claim 8-9, Takamuka et al. implies in the electrolytic polymerization process, wherein electric current is inherently passed in the electrolyte solution using oxidation-reduction active electrodes (working electrodes) and resultant polypyrrole is depositing on electrodes (Col 4, ll 10-25). Takamuka et al. discloses the use of electrolyte solution of tetrabutylammonium salt (Col 5, ll 51) of bis(perfluoroalkyl) sulfonylimide (Col 5, ll 60-61).

Claim Rejections - 35 USC § 103

5. Claims 12-13 are rejected under 35 U.S.C. 103(a) as obvious over **Takamuka et al. (US 6665171 B1)**.

As to claim 12, Takamuka et al. discloses claimed method of producing electric conductive polymer as describe above paragraph 4 except for the further step of detaching and drying of resultant conductive polymer, because the resultant conductive polymer is maintained as part of capacitor assembly. The reference also teaches the composition and filmy object of polypyrrole (the capacitor layer) as describe above paragraph 3. To obtain a free standing dry filmy object having the same polypyrrole structure and prepared by the method recited in claim 8, it is painfully obvious to one of

Art Unit: 4131

ordinary skill in the art to peel off the polypyrrole from electrode followed by drying to remove the unwanted residual solvent/water for an improved final product.

As to claim 13, Takamuka et al. is silent on the property of surface area growth. However, one ordinary skill in the art would expect that the process (Col 4, ll 10-25) disclosed by the reference and the obvious procedure recited in claim 12 would result in filmy object having the same property of surface area growth.

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as obvious over **Takamuka et al. (US 6665171 B1)** in view of **Ohsawa et al. (US 4935319)**.

Takamuka et al. implies in the electrolytic polymerization process as describe above paragraph 4.

Takamuka et al. is silent on the wt% of (perfluoroalkyl)sulfonylimide salt and electric current density as recited in claims 10-11.

Ohsawa et al. discloses a process of producing polypyrrole, wherein current density in the electrolytic polymerization be in the range of about 0.1 to 1.5 mA/cm² to achieve the uniformity, strength and thickness of the obtained film (Col 11, ll 25-27). Ohsawa et al. further discloses aromatic anion (used as electrolyte) in the range of 0.01 to 0.2 M to achieve polymerization efficiency and the mechanical strength of the obtained film (Col 11, ll 30-32). Note the aromatic anion is part of aromatic electrolyte such as potassium nitrobenzenesulfonate (Col 10, ll 60-64) that is dissolved in nitrobenzene (Example 15). The wt% of this electrolyte is calculates as 4.2 wt%, falling in the claimed range.

Art Unit: 4131

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated disclosures of Takamuka et al. and Ohsawa et al. to develop a process of producing polypyrrole using the range of electric current density and electrolyte wt% recited in claims 10-11 and process recited in claim 8. The suggestion/motivation would have been to achieve the uniformity, mechanical strength of the obtained film and polymerization efficiency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHANE FANG whose telephone number is (571)270-7378. The examiner can normally be reached on Mon.-Thurs. 8 a.m. to 6:30 p.m. EST..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4131

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sf

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796